Indian Doctoral Research in the Field of Education: A Content Analysis of Theses on Shodhganga

Synopsis

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In

Education

Submitted by

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1.0 INTRODUCTION

Human knowledge consists of facts and theories which helps them to understand , comprehend, explain and control a given situation. The knowledge based on assumptions, beliefs, and untested generalizations is less reliable. Only objective verification of generalizations can help in gaining reliable knowledge. The present knowledge is an outcome of diverse methods in research adopted by men over centuries. Research is the application of the scientific method in the study of problems, it leads to acquisition and expansion of knowledge through a planned effort by trained people. It is directed towards discovery and development of an organized body of knowledge.

Knowledge creation and research is critical for growth and sustenance of a large and developing economy. A robust ecosystem of research is more important than ever with the rapid changes occurring in the world. Today, the criticality of research is undeniable for the economic, intellectual, societal, environmental, and technological health and progress of a nation.

Educational research is systematic attempt to gain a better understanding of the educational process, generally with a view to improving its efficiency. According to Travers (1958), educational research represents an activity directed towards the development of an organised body of scientific knowledge about the events with which educators are concerned. Research in education is essential for providing useful and dependable knowledge through which the process of education can be made more effective.

The National Education Policy, 2020 highlights quality education as one of the prime challenges that India needs to address today through high-quality research. Policy suggests that the research needs to be done in India and not simply be imported. Also, the ability to conduct one's own research enables a country to easily import and adapt relevant research from abroad. The policy presents 'outstanding research as a corequisite for outstanding education and development', as one of the fundamental principles that will guide both the education system and institutions (NEP,2020).

Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discovery- based style of learning with emphasis on the scientific method and critical thinking. This includes career counselling in schools towards identifying student interests and talents, promoting research in universities, the multidisciplinary nature of all Higher Education Institutes (HEIs) and the emphasis on holistic

education, the inclusion of research and internships in the undergraduate curriculum, faculty career management systems that give due weightage to research, and the governance and regulatory changes that encourage an environment of research and innovation. It proposes establishment of a National Research Foundation (NRF) to fund outstanding peer-reviewed research and to actively seed research in universities and colleges. The NRF will function to help enable and support such a vibrant research and innovation culture across HEIs, research labs, and other research organizations (NEP,2020). The state of doctoral education and academic research in India is poor and the country has scant representation among the world's great universities. The decline has happened in spite of early achievements. Reasons behind this are complex and defy easy explanations.

Students from Indian universities have impressed the world with their exceptional intellectual and leadership qualities. Most of the renowned industries worldwide have alumni of Indian universities as their heads. India's higher education system is one of the world's biggest, with well over 850 universities. The Central universities are centrally monitored by the Indian Government with its Department of Higher Education. These consist of India's oldest research universities, as well as some newer and specialized institutions.

There are 47 Central universities in India. State universities are set up and governed by individual Indian states and provinces. There are around 390 State universities where a student can pursue a Ph.D. as a career option. In India, there are around 307 registered Private universities and 124 Deemed universities. There are over 40,000 colleges in India for higher education. These colleges are affiliated to the state universities and run the curriculum designed and directed by the universities.

A doctoral study (Ph.D.) is an advanced science education and learning in the research, students who have completed undergraduate and postgraduate are eligible for pursuing Ph.D. Degree granting in India is regulated by the University Grants Commission (UGC), which was established in 1953 by an act of the parliament. The UGC provides funds and coordinates, determines and maintains standards in institutions of higher education.

Doctoral research is unique and rich source of information. In India, most of the research work completed towards fulfilment of requirement of a doctoral degree for a long time had poor accessibility. This was due to the submission of only physical copy of research work in the Institute library limiting

the access of academic fraternity. Devoid of publication channels, the doctoral research work remained an un-tapped and under-utilized asset, leading to unnecessary duplication and repetition that, in effect, is the anti-theses of research and wastage of huge resources, both human and financial. ([Article about Shodhganga],n.d.)

The UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / Ph.D. Degree, Regulation, 2009 Amendment made on 2016) dated 5th May 2016 mandated submission of electronic version of theses and dissertations by the researchers in universities with an aim to facilitate open access to Indian theses and dissertations to the academic community world-wide. Availability of research theses and dissertations online in an electronic format through a centrally-maintained digital repository like Shodhganga has led to easy and secure access of the research work. Shodhganga is responsible for archiving Indian doctoral theses and has been promoting improvement in the standard and quality of research. As per the Regulation, the responsibility of hosting, maintaining and making the digital repository of Indian Electronic Theses and Dissertation (called "Shodhganga"), accessible to all institutions and universities, is assigned to the INFLIBNET Centre. ([Article about Shodhganga],n.d.)

"Shodhganga" is the name coined to denote digital repository of Indian Electronic Theses and Dissertations set-up by the INFLIBNET Centre. The word "Shodh" has its origin in Sanskrit and stands for research and discovery. The "Ganga" is the holiest and longest of all rivers in India is the symbol of India's age-long culture and civilisation revered by its people. Shodhganga stands for the reservoir of Indian intellectual output stored in a repository hosted and maintained by the INFLIBNET Centre. The repository has the ability to capture, index, store, disseminate and preserve ETDs (Electronic Theses and Dissertations) submitted by the researchers. It replicates academic structure of University in terms of Departments/ Centres/ Colleges facilitating easy navigation. This facilitates research scholars to deposit their theses in the respective Department / Centre / College of the University. ([Article about Shodhganga],n.d.)

2.0 EMERGENCE OF THE PROBLEM

Research undertaken in the subject disciplines of social sciences has got a direct bearing on the overall well-being and betterment of a society. The greater the amount of research conducted in any social sciences disciplines, higher will be its impact on the society in general and the end users in particular.

Growth and development of a subject field are directly associated with the amount of research undertaken in that particular subject area and if the subject finds very few scholars or no scholars at all, the subject is bound to die down (Pandita & Singh, 2017).

Quality research in India principally hinges on doctoral research work (leading to the award of PhD degree) produced by the universities that follow UGC regulations. Some studies of China's economy have found that third-level education has a larger positive impact on growth than primary and secondary education (Zhang and Zhuang 2011). The South African Higher Education Qualifications Sub-Framework describes doctoral studies as needing to 'make a significant and original academic contribution especially at the frontiers of a discipline or field'. Thus, knowledge creation is an unconditional expectation of doctoral work. It is incumbent upon doctoral students that their work makes a substantive contribution to the field within which it is conducted (Van Schalkwyk et al. 2020).

It is always imperative that scholars undertaking research in any social science subject should produce quality results. Education is the leading subject field of Social Science in India in which maximum 983 (16.98 per cent) doctoral degrees were awarded, with an average 196.60 doctoral degrees in each year (Pandita & Singh, 2017). National Education Policy, 2020 has also emphasised on high quality research in Education departments in various aspects of education. According to NEP, 2020 the faculty profile in Departments of Education should aim to be diverse with high value to teaching/field/research experience.

NEP, 2020 highlights- 'the *general aim of doctoral studies has been to develop students' in-depth knowledge of research and their capability to produce novel scientific knowledge independently.'* A dissertation shows proof of both an original contribution to knowledge and substantial subject knowledge in a discipline, and it also provides evidence of significant scholarly achievement (Kushkowski et al. 2003). Thus, doctoral studies in India have potential for making a significant contribution to the further development of the field of education (Miklos, 1992) . But there is little empirical research in India devoted to study doctoral students' trends when carrying out their research.

A study in Turkey examined 252 PhD theses published from 2010 to 2020. Findings suggested that Teacher Professional Development was the leading research topics while Culture, Social, and Gender Issues were found to be under-researched in Turkey. The results implied that under-researched topics

show the gaps for researchers by implying the necessity for more research in certain areas (Gursoy, E., & Ozcan, E. N. 2021). Another study (Simsek, Ali et al. 2009*)* examined 259 master's theses in the field of educational technology completed in Turkey during 2000-2007. The results suggested that quantity and quality of educational technology research varied according to years and universities. A great majority of the theses employed quantitative paradigm, and qualitative studies made about one fourth of the total studies. Approximately 80 % of the theses were based on descriptive models using questionnaires, tests, and scales as data gathering instruments. The samples included university students in three out of every four theses. A significant majority of the theses employed descriptive statistical techniques and only a limited number of experimental theses conducted inferential statistical analyses.

A study in Canada (Rothwell et al. 2015) reviewed 248 dissertations from 2001 to 2011. Most dissertations were found to be qualitative and descriptive in nature with a relatively low percentage focusing on intervention. Zain et al. 2010 in his paper reported the main findings of a study of a sample of UK Doctorate Theses with a research focus on TQM. It found that the research outputs were mainly in the form of guidelines and frameworks and little attempt was made to build upon previous research to create a meta model of TQM. It also pointed out that the work undertaken is primarily retrospective and there is little attempt to speculate on what the next generation of quality tools, techniques, and paradigms will look like. Similarly a number of studies have taken place in different countries across disciplines to identify research trends as shown in Table-1.

Table-1: Studies conducted at International level.

SN	TITLE	YEAR	COUN TRY	SUBJECT
1.	A Content Analysis of Doctoral Research in String Education, 1936–1992	1995	USA	String Education
2.	A Review of Three Decades of Doctoral Studies Using the Principal Instructional Management Rating Scale: A Lens on Methodological Progress in Educational Leadership	2011	International	Educational Leadership and Management
3.	A Selected Survey of Doctoral Research Related to American Studio Education: 1964-1984	1988	USA	Studio Education
4.	A systematic analysis of doctoral publication trends in South Africa	2020	South Africa	All
5.	An analysis of research trends in dissertations and theses studying blended learning	2012	USA	Blended Learning

6.	An Integrative Summary of Doctoral Dissertation Research in Quality Management	2009	USA	Quality Management
7.	Analysis of Trends and Contents of Nursing Doctoral Dissertations in Korea	2012	South Korea	Nursing
8.	Bibliometric and Social Network Analysis of Doctoral Research: Research Trends in Distance Learning	2016	International	Distance Learning
9.	Changes in public affairs and administration doctoral research, 2000 and 2015	2019	International	Public Affairs and Administration
10.	Consultation research: Trends in doctoral dissertations 1978–1985	1988	International	Consultation Research
11.	Content, Methodology, and Design Selections in Counselor Education Dissertations	2017	USA	Counsellor Education
12.	Current Trends in Educational Technology Research in Turkey in the New Millennium	2009	Turkey	Educational Technology
13.	Doctoral Dissertation Research in Rehabilitation Counselling: 2005–2007	2012	USA	Rehabilitation Counselling
14.	Doctoral dissertations of Library and Information Science in China: A co-word analysis	2013	China	Library & Information Sciences
15.	Doctoral Research in Educational Administration at the University of Alberta, 1958-1991.	1992	USA	Educational Administration
16.	Doctoral Research in Library and Information Science in Bangladesh: An Analysis on Trends and Development	2017	Bangladesh	Library & Information Sciences
17.	Doctoral Students Research Trends and Practices: Implications for Curriculum Design in Higher Education	2019	Ethiopia	Teaching English as a Foreign Language
18.	Doctoral TQM research: A study of themes, directions and trends	2001	UK	Total Quality Management
19.	Exploring the Research Trends-Related Imbalances in Doctoral Level Research on Distance Education in Pakistan	2019	Pakistan	Distance Education
20.	Finding and minding the gaps for language education in Turkey: A content analysis on doctoral dissertations in ELT programs from 2010-2020	2021	Turkey	Language Education
21.	Helping doctoral students crack the publication code: An evaluation and content analysis of the Australasian Journal of Educational Technology	2018	Australia	Educational Technology
22.	Information science – facing social and ethical challenges: Analysis of masters' theses and doctoral dissertations over the past five years (2002-2006) in information science departments worldwide	2007	International	Information Science
23.	Library, Information Science, and Archives Doctoral Research Trends in Australia	2022	Australia	Library & Information Sciences

24.	Master's and Doctoral Thesis Citations: Analysis and Trends of a Longitudinal Study	2003	USA	All
25.	Patterns and Trends of Canadian Social Work Doctoral Dissertations	2015	Canada	Social Work
26.	Quantitative Content Analysis of Virginia Doctoral Dissertations 2007-2017: Trends in Degree Types and Methodologies	2018	USA	Education
27.	Recent trends in PhD education in mathematics and science education research: back to university level organization	2014	Finland	Mathematics And Science Education
28.	Research in urban history: new research trends in doctoral dissertations in Russia since 2000	2015	Russia	Urban History
29.	Research on Teaching in Physical Education Doctoral Dissertations: A Detailed Investigation of Focus, Method, and Analysis	2003	International	Physical Education
30.	Review of doctoral research in language education in Germany (2009–2013)	2016	Germany	Language Education
31.	Review of doctoral research in language education in Germany (2014–2018)	2020	Germany	Language Education
32.	Review of doctoral research in second language acquisition in Germany (2006–2009)	2011	Germany	Language Education
33.	Reviewing the trends of nursing doctoral thesis research in Hong Kong	2012	Hong Kong	Nursing
34.	Selected Trends in Thirty Years of Doctoral Research in Environmental Education in Dissertation Abstracts International From Collections Prepared in the United States of America	2013	USA	Environmental Education
35.	South African trends in masters and doctoral research in Public Administration	2008	South Africa	Public Administration
36.	The Major Themes and Trends in Doctoral Dissertation Research in Educational Technology from 1977 through 1998.	1999	USA	Educational Technology
37.	Trends and Analysis of Research on Teaching in Doctoral Programs	1987	International	Teaching
38.	Trends in Accounting Doctoral Dissertations: 1991–2000	2003	International	Accounting
39.	Trends in Doctoral Research in Educational Administration	1991	USA	Educational Administration
40.	Trends in Doctoral Research on English Language Teaching in Turkey	2016	Turkey	English Language Teaching
41.	Trends in Ph.D. Productivity and Diversity in Top-50 U.S. Chemistry Departments: An Institutional Analysis	2014	USA	Chemistry
42.	Trends in the theoretical and research methodological approaches applied in doctoral studies in information and knowledge management : an exploration of ten years of research in South Africa	2008	South Africa	Information & Knowledge Management

In India, Mamta Malik (2016) analysed Ph.D. Theses of Political Science of Vikram University from 2009-2012; Singh and Kumar (2016) analysed 99 Ph.D. theses from the Department of Chemistry, Banaras Hindu University, awarded during 2000-2014; Barik and Jena (2015) analysed 41 doctoral theses in Library and Information Science to identify the doctoral research trends of the Utkal University. Similarly Mandal and Borah (2014) examined research output (doctoral thesis) in various departments such as Arts, Science, Languages and Technologies in Assam University from the year 2001-2014. Suchethan Kumar and others (2013) studied according subject-wise, year-wise and gender-wise research productivity, research thrust area, research trends and most productive guide of Social science theses of Kumaun University and Delhi University. Mulla and Konnur (2012) analysed 250 doctoral dissertations awarded by Visvesvaraya Technological University (VTU) while Samdani and Bhatti (2011) studied the number of doctoral degrees awarded in the field of LIS starting from the year 1964-2010. Researches studying research trends at doctoral level in India are listed in Table-2.

Table-2: Studies conducted in India.

SN	TITLE	YEAR	COUN TRY	SUBJECT
1.	Authorship patterns in physics literature: An informetric study on citations in doctoral theses of the Indian Institute of Science	2007	India	Physics
2.	Bibliometric Study Of Ph.D. Theses In Commerce	2014	India	Commerce
3.	Doctoral degrees in library and information science in India during 2003-2008: A study	2009	India	Information & Library Sciences
4.	Doctoral Dissertations In Library And Information Science In India	2004	India	Library & Information Sciences
5.	Doctoral Research in Library and Information Science in India: Trends and Issues.	2014	India	Library & Information Sciences
6.	Doctoral Research Output in Social Sciences in India during 2010-2014 : A Study	2017	India	Social Science
7.	Doctoral Theses Awarded in Library and Information Science in India during 2010-2014: A Study	2017	India	Library & Information Sciences
8.	Glimpses of Doctoral Research in English Studies in India: A Study of Institute of Advanced Studies in English, Pune	2019	India	English Studies
9.	Indian Doctoral Research in the Field of Library and Information Science: An Empirical Analysis	2020	India	Library & Information Sciences
10.	Research Trends in Commerce: A Citation Analysis of Ph.D. Theses Submitted to the	2015	India	Commerce

	Bharathidasan University, Tiruchirappalli			
11.	Research trends in Doctoral Research in Economics with special reference to Bangalore University, Bangalore: A study	2016	India	Economics
12.	Social Science Research Output in State Universities of India: A Study of Kumaun University	2015	India	Social Science
13.	Doctoral Dissertations In Library And Information Science In India 1997-2003: A Study	2004	India	Library & Information Sciences

According to NEP 2020, educational research should be more focused and need based and generate and share ideas that will be widely applicable in real-life settings. Collectively doctoral studies offer a perspective on the general nature of educational research, which is missing in the field of education as evident in the studies described above. This highlighted the need of analysis of research work and its ability to bring to fore the emerging trends and areas of focus in the doctoral work.

3.0 JUSTIFICATION OF THE PROBLEM

Doctoral dissertation is an underdeveloped unit of analysis, analysis of doctoral dissertations can provide valuable insights into the growth and structure of scientific fields and disciplines (Andersen and Hammarfelt 2011). The doctoral dissertations have their own importance in creating new academic knowledge, be it about disciplinary tradition, trends or research techniques (Dellgran, P. & Höjer, S.2012). By revealing methodological and research trends, such a study can assist researchers to identify areas where they need to focus. The development of the field of education is of interest as uncovering research trends "also reveals emerging technologies and paradigm shifts" (Baydas, Küçük, Yilmaz, Aydemir, & Göktaş, 2015, p. 710), thereby providing guidance to educators on best practices for using in the classroom, as well as identifying opportunities for future research direction (Lee, Driscoll, & Nelson, 2004), which is particularly important for early-career researchers.

With a re-energized focus of the government and HEIs on the research quality specially in context of education and successful implementation of the National Education Policy in a diverse country like India, the time is ripe enough to introspect how research in education has grown over the period of time and where it is heading.

Doctoral dissertations offer unique insight into the field by revealing the foci of research and serve a

critical function in the exploration of disciplinary development. Thus, this study will contribute to better understanding the field and providing a basis for its future development (Q.-J. Zong et al. 2013). The need for an investigation of doctoral dissertations is thus quite evident, as there is not yet a study analysing those issues. Within this context, the present study aims to reveal how the doctoral research trends in India are shaped.

PhD theses are a great sources to spot the leading research trends and the research gaps in the field. No previous study has missioned to make an investigation on PhD theses in India to spot such findings, which is where the significance of this study lies. Thus the decision to engage in a review of a set of doctoral theses is based on the assumption that the significance of the overall research effort, and of individual studies ,would be enhanced by developing a perspective on the research. (Miklos, 1992).

The proposed study seeks answers to the following questions to develop an understanding of the research trends in India in the field of education

RQ-1: What are the categories and the distribution of the areas studied in the doctoral theses in the field of education on Shodhganga?

RQ-2: What are the categories and the distribution of the doctoral theses on Shodhganga in the field of education according to their research method and design?

RQ-3: What are the categories and the distribution of the doctoral theses on Shodhganga in the field of education according to their data collection method?

RQ-4: What are the categories and the distribution of the doctoral theses on Shodhganga in the field of education according to their sampling technique?

RQ-5: What are the categories and the distribution of the doctoral theses on Shodhganga in the field of education according to their sample size and characteristics?

RQ-6: What are the categories and the distribution of the doctoral theses on Shodhganga in the field of education according to their data analysis technique?

4.0 STATEMENT OF THE PROBLEM

The statement of problem for the proposed study is:

'To study the Indian Doctoral Research in the field of Education by conducting analysis of the theses on Shodhganga.'

5.0 OPERATIONAL DEFINITIONS OF THE TERMS TO BE USED IN THE STUDY

1. Doctoral Research:

Doctoral Research is the advanced work beyond the master's level, including the preparation and defence of a dissertation or thesis based on original research conducted in support of candidature to obtain a Doctor of Philosophy degree. (Collins Dictionary)

2. Content Analysis:

According to Weber, 1985 content analysis is a research methodology that utilizes a set of procedures to make valid inferences from text. Kerlinger (1986) defined it as a method of studying and analyzing communication in a systematic, objective, and quantitative manner for the purpose of measuring variables.

3. Education:

In the present study education is a discipline that is concerned with methods of teaching and learning in schools or school-like environments as opposed to various nonformal and informal means of socialization (Moumouni, A. *et al.*2021, Britannica).

In the present study it doesn't cover the field of professional education, adult education and physical education as they have separate body of knowledge, literature and the researcher is not well verse with the developments in these fields.

4. Shodhganga:

Shodhganga is the Indian Electronic Theses and Dissertations (ETD) repository which facilitates open access to doctoral theses through the academic community.

The word "Shodh" originates from Sanskrit and means of research and discovery. Ganga is the largest river in India. This project intends to provide online accessibility to Indian theses, to ensure that they are easy to access and to create a place for them to be archived (Dhanavandan & Tamizhchelvan, 2013).

5. Theses:

A thesis is a document submitted in support of candidature for an academic degree presenting the author's research and findings. It is a long piece of writing based on author's own ideas and research that they do as part of a higher degree such as a PhD. (Collins Dictionary)

6.0 OBJECTIVES OF THE STUDY

The study proposes following objectives to answer its research questions-

1. To determine the categories and distribution of the areas across areas and sub-areas studied in the doctoral theses in the field of education on Shodhganga.
2. To determine the categories and distribution of the doctoral theses on Shodhganga in the field of education according to their research method and design.
3. To determine the categories and distribution of the doctoral theses on Shodhganga in the field of education according to their data collection method.
4. To determine the categories and distribution of the doctoral theses on Shodhganga in the field of education according to their sampling technique.
5. To determine the categories and distribution of the doctoral theses on Shodhganga in the field of education according to their sample size and characteristics.
6. To determine the categories and distribution of the doctoral theses on Shodhganga in the field of education according to their data analysis technique.

8.0 DELIMITATIONS OF THE STUDY

The proposed study has following delimitations-

1. The study is limited to the Doctoral Theses in the field of education available on Shodhganga.
2. The study is limited to the Doctoral Theses in the field of education submitted under Education subject on Shodhganga excluding studies belonging to Adult Education, Physical Education and Professional Education.
3. The study is limited to the Doctoral Theses in the field of education written in English & Hindi language.
4. The study is limited to the Doctoral Theses in the field of education submitted between 2015 and 2023.

9.0 VARIABLES IN THE STUDY

The purpose of all research is to describe and explain variance in the world. Variables are names that are given to the variance explained in a descriptive study. Variables are the basic units of the information studied and interpreted in research studies. ([Article about Variables],n.d.)

A variable whose value varies by attributes or characteristics is called a qualitative variable. The scale for measurement of a qualitative variable is a set of *unordered* or *nominal* categories. Also called as categorical variables, the qualitative variables differ from quantitative variables in that distinct categories matter in quality or attribute rather than in quantity or magnitude (Lewis-Beck, M. S., Bryman, A., & Futing Liao, T., 2004). The variables under study in the proposed study are:

1. Areas
2. Research Method and Design
3. Data Collection Method
4. Sampling Technique
5. Sample Size & Characteristics
6. Data Analysis Technique

10.0 SAMPLING TECHNIQUES

Non-probability sampling techniques are commonly used in qualitative research, as the aim is not to test a hypothesis about a broad population, but to develop an initial understanding of a small or under-researched population. Under non-probability sampling, use of purposive sampling involves the researcher using their expertise to select a sample that is most useful to the purposes of the research. In this the researcher wants to gain detailed knowledge about a specific phenomenon rather than make statistical inferences. ([Article about Sampling Methods],n.d.) An effective purposive sample must have clear criteria and rationale for inclusion. Following are the criterion for inclusion in the proposed study:

1) Open Access Digital Depository

Theses submitted by doctoral students are difficult to access, as they are only collected by the library of the university which grants the degree. Electronic Theses and Dissertations can be easily located, readily accessible, and delivered over the Web (Vijaykumar and Murthy, 2001). Shodhganga@INFLIBNET Centre provides a platform for Indian research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. ([Article about Shodhganga],n.d.) Thus, the doctoral theses available on Shodhganga platform are considered.

2) Time Period (2015 to 2023)

Inclusion of theses submitted before 2015 in the sample is beyond the scope and time frame of the

present study. Time period between 2015 and 2023 will give a significant overview of the doctoral work in last decade as the average time taken by research work at doctoral level is 3 to 5 years.

3) Language- English & Hindi

A preliminary review of the doctoral theses have highlighted the fact that majority of the research work at doctoral level in the field of education is performed in English as well as Hindi language. The research work in English and Hindi language will be only considered, as regional languages are beyond the scope and time available for the present study.

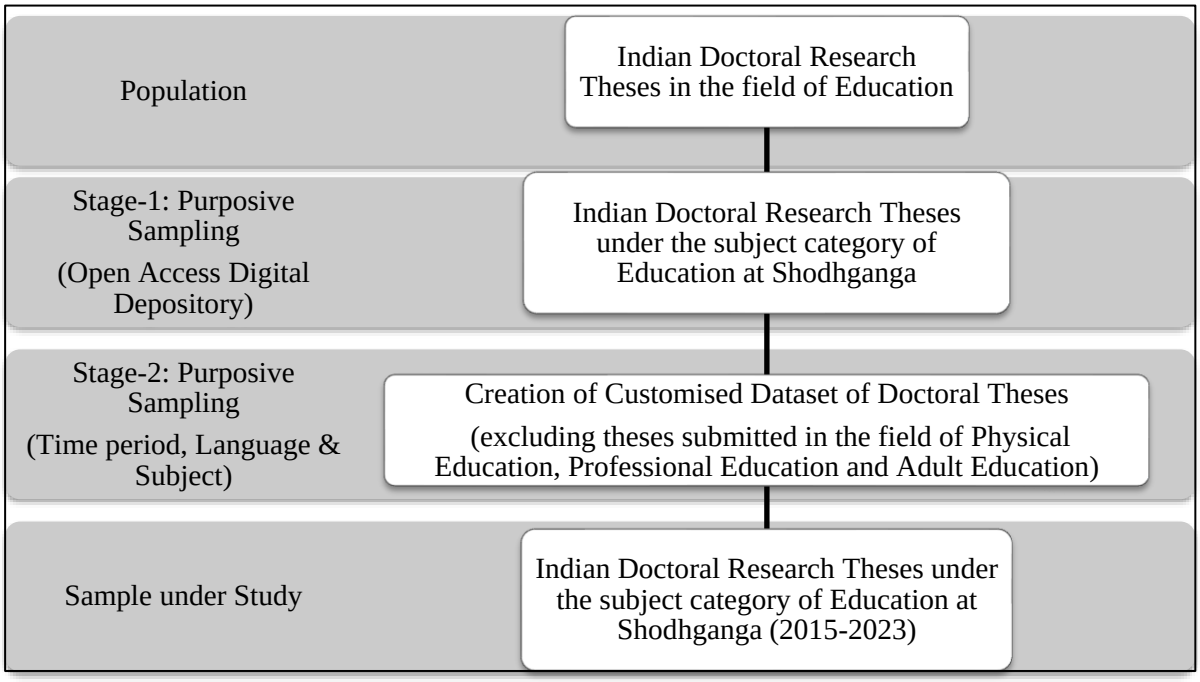
Population
Indian Doctoral Research Theses in the field of Education
Stage-1: Purposive Sampling
(Open Access Digital Depository)
Indian Doctoral Research Theses under the subject category of Education at Shodhganga
Stage-2: Purposive Sampling
(Time period, Language & Subject)
Creation of Customised Dataset of Doctoral Theses
(excluding theses submitted in the field of Physical Education, Professional Education and Adult Education)
Sample under Study
Indian Doctoral Research Theses under the subject category of Education at Shodhganga (2015-2023)

Fig-1: Sampling Method for the study.

11.0 METHOD OF THE STUDY

Researcher will be using mixed methods approach in the present study. Mixed methods is a research approach whereby researchers collect and analyse both quantitative and qualitative data within the same study (Creswell, 2011). Mixed methods research requires a purposeful mixing of methods in data collection, data analysis and interpretation of the evidence. The key word is 'mixed', as an essential step in the mixed methods approach is data linkage, or integration at an appropriate stage in the research process. (Ivankova, 2006)

The researcher will be integrating content analysis into the mixed method approach. Content Analysis is 'an approach of empirical, methodological controlled analysis of texts within their context of

communication, following content analytic rules and step by step models, without rash quantification'(Mayring, 2000).

12.0 DESIGN OF THE STUDY

<table>
<tr><th></th><th colspan="2">Qualitative Phase</th><th>Quantitative Phase</th></tr>
<tr><td>STEP-1</td><td colspan="2">Create Customized Dataset of the Educational Research Theses on Shodhganga (2015-2023)</td><td rowspan="5"></td></tr>
<tr><td>STEP-2</td><td colspan="2">Define the unit of analysis</td></tr>
<tr><td>STEP-3</td><td colspan="2">Literature Review and Expert Opinion on Category of Codes</td></tr>
<tr><td>STEP-4</td><td>Develop Categories and a coding scheme</td><td rowspan="4">A coding manual (Codebook) usually consists of category names, definitions or rules for assigning codes, and examples (Weber, 1990).
Coding sample text, checking coding consistency, and revising coding rules is an iterative process and should continue until sufficient coding consistency is achieved</td></tr>
<tr><td>STEP-5</td><td>Test Your Coding Scheme on a Sample of Text</td></tr>
<tr><td>STEP-6</td><td>Code All the Text</td><td>Measure Frequency for each code</td></tr>
<tr><td>STEP-7</td><td>Assess Your Coding Consistency (assessment of inter-coder agreement)</td><td></td></tr>
<tr><td>STEP-8</td><td colspan="2">Qualitative Analysis of the data:
Listing of codes/categories across all variables</td><td>Quantitative Analysis of the data : Calculation of frequencies and percentage for all codes/categories across all variables</td></tr>
<tr><td>STEP-9</td><td colspan="3">Draw Conclusions from the Coded Data</td></tr>
<tr><td>STEP-10</td><td colspan="3">Report Methods and Findings</td></tr>
</table>

Fig-2: Design of the study.

13.0 PROCEDURE OF THE STUDY

The proposed study will use mixed methods approach. It will integrate content analysis method. Doctoral level theses available on Shodhganga under 'Education' subject submitted between 2015 and 2023, written in English and Hindi language will be selected. Records will be reviewed and a dataset of the sample studies will be created by the researcher after examination of the theses (documents).

The qualitative phase will begin with the development of a framework by researcher through literature review and expert suggestions. This will initiate the content analysis work by identifying categories for the variables of the present study: Area, Research Method and Design, Data Collection Method, Data Analysis Technique, Sampling Technique, Sample Size, Sample Characteristics. The initial coding will start with the pre-defined categories. In the present method of research data collection and data analysis

will go hand in hand. The researcher will review the sample text and create new categories to accommodate new information. Based on the codebook developed, text will be coded.

In order to bring transparency to the process of coding and authenticate the data analysis process, researcher will initiate assessment of inter-coder agreement with experts of the field. The codebook will define categories and describe each code with a concrete definition and example quote from the data. Through multiple iterations of the analyses steps, researcher will develop a framework for the analyses of the entire dataset for all the variables.

The quantitative phase will involve the quantification of the results of content analysis by calculating frequencies at which codes/categories will be mentioned in the data. The developed framework and the corresponding frequencies and percentage will be used to draw conclusions and report findings of the given study through descriptive statistics.

14.0 TOOL TO BE USED

1) Codebook based on Analytical Framework of Doctoral Theses developed by the Researcher

A codebook defines themes/categories and describes each code with a concrete definition and example quote from the data (Creswell, 2014). It will be developed for the analysis of following variables in content analysis method: Area, Research Method and Design, Data Collection Method, Data Analysis Technique, Sampling Method and Sample Size & characteristics.

15.0 STATISTICAL TECHNIQUES TO BE EMPLOYED

Descriptive statistics summarize and organize characteristics of a data set, where a data set is a collection of responses or observations from a sample or entire population.

- Frequency
- Percentage

16.0 SIGNIFICANCE OF THE STUDY

The study will contribute to the understanding of the knowledge production system in India at doctoral level in the field of education.

- It will categorize areas where doctoral students are working and the research methods they prefer to use in their work. This will help in the assessment of the profoundness and prevalence of topic/area and methods in the field of educational research, which can guide further studies for understanding

the factors contributing to the trends and preference of the research scholars.

- It will bring forth the sample, its type and size which are being studied at doctoral level. As India projects challenges with its diverse set of population and settings, the study will be useful in examining and highlighting the type of population being under-researched.
- It will give insight into the techniques and methods used by doctoral candidates for sampling, data collection and analysis along with their distribution. This can further form the basis of relooking into the training of research scholars and providing assistance to them.
- As research in a discipline mirror its growth and development, the study will be able to describe the current status of research and present the changing educational landscape. It will identify overall research trends and preference of research scholars at doctoral level and give an insight into the research culture in Indian Universities.
- Thus, the proposed study will provide an overall picture of the field and determine the gaps and areas which need due attention for development of the field of education.

As the Government and Higher Educational Institutes are engaging in debates about the nature, purpose and future of doctoral education and how institutions and departments can best respond to the increasing demands that are being made. This study will provide baseline data from which a number of further investigations can be launched, such as exploring the extent to which doctoral candidates who are also academics are publishing their work; whether publishing or not publishing can serve as a proxy for the quality of the doctoral work; the factors that enable or constrain selection of methods, samples and techniques; the productivity of HEIs ; and comparison with research trends at International level. Thus, findings of the study will be significant for shedding light on the current status of Indian doctoral theses in the field of education and promote deliberation on the future direction of educational studies in India.

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